

ABSTRACT

A display device including a first electrode, a liquid crystal layer positioned under and connected to the first electrode, a second electrode and a switchable optical layer. The switchable optical layer includes either a transparent state or a non-transparent state and is electrically switchable between the transparent state and the non-transparent state. The non-transparent state is a reflective state or a selectively emissive state. The switchable optical layer is positioned above and connected to the second electrode. A third electrode is positioned between the liquid crystal layer and the switchable optical layer.